Notebook Series -- Notebooks by Edison
Notebook, N-14-12-03

This undated notebook is a continuation of N-14-04-26. It was probably used during the period August-October 1914. All entries are by Edison, except for several notations by another experimenter, possibly Frederick P. Ott. The entries pertain to experiments aimed at the rejuvenation or "regeneration" of used storage batteries. Included are the results of tests performed on cells constructed with different regenerated components, primarily old negative electrode "pockets" reconstructed with treated iron or formed using different crimping dies. There are also a few experiments that involve regenerated positive electrode "tubes" made with treated nickel hydrate. Most of the experiments bear sequential numbers, 241E-382E. Some of the cells produced in these experiments were apparently transferred to the Edison Storage Battery Co. at Silver Lake for continued testing. Their subsequent performance is tabulated in N-14-12-14.1 (see Notebooks by Edison and Other Experimenters -- Storage Battery). Inserted into the book are two memoranda by Walter N. Archer and several loose pages of notes, probably by H. H. Smith. They date from the period August-December 1914 and relate to regenerated iron and nickel experiments being conducted for Edison. The front cover is labeled "Regeneration No Two." The pages are unnumbered. Approximately 160 pages have been used.

Old Fe

241 E (23704)

K Arsenate

1	1700	1390
2	1735	1410
3	1695	1400
4	1735	1440
5	1690	1420
7	1590	1380
9	1675	1475
11	1700	1460
32	1375	1180

242 E (23804)

K Bromate

1	1600	1610
2	1660	1590
3	1620	1540
4	1660	1580
5	1625	1590
7	1535	1510
9	1615	1610
11	1645	1635
32	1295	1285

70 ec

Old Fe

243 E (2390 ft)

K Binoxalate

1	1665	1610
2	1685	1645
3	1555	1545
4	1590	1580
5	1595	1575
7	1475	1465
9	1620	1600
11	1645	1625
~~64~~	~~907~~	~~1000~~
~~65~~	~~937~~	~~1020~~
~~66~~	~~940~~	~~1077~~
32	1390	1200

244 E (2400 ft) Very Red

244 K Hypophosphorous.

1	1500	1615
2	1500	1655
3	1425	1575
4	1445	1625
5	1465	1575
7	1390	1505
9	1475	1610
11	1485	1600
~~65~~	~~980~~	~~997~~
~~66~~	~~977~~	~~977~~
32	1290	1440

old 7r

245E (2410H) dark.

K Propionate –

1	1645	1650
2	1645	1685
3	1555	1585
4	1590	1625
5	1590	1595
7	1460	1575
9	1540	1660
11	1560	1700
~~15~~	~~943~~	~~1060~~
~~60~~	~~960~~	~~1057~~
~~30~~	~~1380~~	~~1270~~

246E (2420H) dark –

K Ferricyanide

1	925	1035
2	725	1010
3	385	445
4	520	610
5	435	575
7	510	655
9	740	910
11	750	990

Old Fe

247E (245 off) dark

K Peroulphate,

1	1560	1335
2	1640	1345
3	1590	1360
4	1690	1475
5	1695	1500
7	1615	1430
9	1725	1515
11	1755	1250
32	1545	1430

248E (246 off) Quite dark

K Ethylsulphonate

1	1635	1675
2	1640	1650
3	1575	1580
4	1590	1625
5	1565	1590
7	1505	1540
9	1600	1615
11	1620	1633
30	1248	1250

Old 72

249E (248 off) Quite dark

K Formate

1	1425	1425
2	1115	990
3	1275	1185
4	1535	1475
5	1585	1595
7	1510	1475
9	1615	1540
11	1600	1545

250E (249 off) very dark

K Urate

1	1590	1855
2	1845	1820
3	1825	1785
4	1790	1760
6	1665	1640
8	1730	1680
10	1765	1760
31	1580	1470

old fr

251 E (250 off) fairly dark

K Citrate

1	1390	1340
2	1360	1355
3	1445	1435
4	1475	1405
6	1390	1400
8	1535	1475
10	1550	1485
31	1385	1385

252 E (251 off) dark

K Salicylate.

1	1640	1650
2	1620	1590
3	1665	1625
4	1620	1620
6	1535	1510
8	1600	1600
10	1635	1600
31	1380	1385

old fa

253 F (252 OH). all red

K Chloro-Chromate

1	540	475
2	525	460
3	590	525
4	535	475
6	640	600
8	600	540
10	675	600
31		

254 E (255 OH) dark

K Metaborate

1	1730	1645
2	1690	1615
3	1690	1625
4	1640	1610
6	1540	1530
8	1610	1610
10	1650	1650
31	1500	1260

ed 7a

255 E (256 OH)

K Sulfocyanate.

Very black

1	300	440
2	235	285
3	255	375
4	275	420
6	395	525
8	520	730
10	555	725
~~31~~	~~865~~	~~1290~~

256 E (257 OH)

K Ethylsulphuric -

all very sera

1	1535	1590
2	1490	1560
3	1585	1625
4	1610	1625
6	1540	1550
8	1625	1625
10	1650	1660
31	865	1290

cl 7a

257 E (2590 ft) [illegible]

Rochelle Salts.

1	1255	1375
2	1400	1425
3	1530	1550
4	1585	1600
6	1475	1470
8	1615	1615
10	1600	1600
31	1395	1395

258 E (2600 ft) Hack

K Bromide.

1	1335	1665
2	1260	1615
3	1335	1720
4	1310	1695
6	1275	1575
8	1375	1630
10	1400	1650
31	1365	1400

259E (2620H) – black

Dark slightly green smells of ammonia –

K Cyanate.

1	1680	1555
2	1660	1760
3	1665	1755
4	1650	1710
6	1545	1555
8	1620	1615
10	1635	1600
31	1290	1500

260E (2630H)

Semi dark

K Tannate, 10 grms

1	1635	1715
2	1675	1760
3	1720	1835
4	1595	1670
5	1565	1655
6	1625	1725
7	1685	1780
8	1680	1760
10	1635	1720
11	1630	1685

0072

261 E (2650H) Dark.

K Sulphobenzoate, 10 mins.

1	1850	1630
2	1755	1925
3	1760	1950
4	1715	1850
6	1590	1700
8	1675	1755
10	1700	1725
31	1285	1585

262 E (266 Off) Mixed red & black

K ferricoxalate.

1	1855	1750
2	1845	1645
3	1870	1725
4	1825	1685
6	1670	1590
8	1725	1675
10	1720	1700
31	1470	1500

263 E (267 off) Black.

Sodium Bicarbonate.

1	1840	1785
2	1775	1720
3	1815	1775
4	1785	1755
6	1630	1575
8	1700	1685
10	1700	1700
31	1395	1090

264 E (268 off) dark.

Sodium acetate.

1	1840	1850
2	1745	1730
3	1760	1760
4	1715	1785
6	1590	1580
8	1685	1625
10	1700	1635
31	1285	1090

old fa

265E (269 OH) Mixed

Sodium Cyanide.

1	1675	1730
2	1550	1650
3	1765	1815
4	1745	1875
6	1700	1750
8	1730	1745
10	1735	1760
3	1245	1345

266E (270 OH) dark

Sodium Oxalate,

1	1760	1800
2	1660	1690
3	1730	1765
4	1735	1755
6	1610	1590
8	1635	1630
10	1550	1540
31	1200	1345

ODFz

267E (271 off) mixed

Sodium Ammonium Phosphate,

1	1580	1770
2	1535	1760
3	1590	1875
4	1575	1805
6	1485	1740
8	1510	1730
10	1540	~~1730~~
31	1119	1240

268E (272 off) mixed

Sodium Hypophosphite -

1	1985	1855
2	1940	1860
3	1985	1945
4	1940	1890
6	1785	1760
8	1815	1755
10	1810	1790
31	1610	1610

old 72

269E (2730ft) dark.

Na. Bromide

1	1860	1825
3	1725	1720
4	1650	1640
5	1755	1750
7	1760	1725
28	1345	1340

270E (2740ft) Red + Black -

Na. Arseniate -

1	1525	1650
3	1415	1550
4	1400	1517
5	1510	1630
7	1490	1600
28	1180	1290

old 7a

271 E (2750H) Mixed

Na. Phenoplate

1	1690	1350
3	1540	1290
4	1505	1280
5	1640	1385
7	1640	1380
	1240	1000

272 E (2760H) Brown

Na Phenylate.

1	1615	1760
3	1700	1790
4	1655	1750
5	1760	1830
7	1755	1810
28	1360	930

01072

273 E (277 01F) Black

Na Sulphite -

1	1860	1860
3	1700	1725
4	1610	1645
5	1685	1695
7	1700	1810
28	1440	1395
32	1500	1475
33	1585	1535
34	1565	1530

CO

274 E (278010) dark

Na Benzoate.

1	1790	1715
3	1625	1635
4	1570	1575
5	1675	1675
7	1600	1600
28	1240	1217

0072

275E (2790ct) [illegible]

Na Carbonate

1	1895	1795
3	1755	1700
4	1655	1600
5	1760	1690
7	1740	1780
28	1460	1290
32	1550	1335
33	1625	1415
34	1600	1440

Co

Co

276E (2800ct) [illegible]

Na Sulphide Red specks on some parts,

1	1585	1590
3	1760	1670
4	1740	1675
5	1790	1725
7	1770	1750
28	1660	1485
32	1795	1625
33	1860	1690
34	1875	1690

CD7e

277 E (281 Ott) Black

Na Chloride,

1	1935	1720
3	1785	1550
4	1680	1490
5	1765	1585
7	1745	1625
28	1395	1245
32	1515	1265
33	1555	1345
34	1565	1295

Co

278 E (282 Ott) all Red

Na Bisulphate,

1	1650	1720
3	1775	1760
4	1735	1705
5	1815	1755
7	1790	1810
28	1250	1310
32	1335	1475
33	1400	1500
34	1365	1500

Co

0072

279 E (283 Ott) (mixed)

Na Borate.

1	1745	1850
3	1635	1700
4	1565	1630
5	1685	1725
7	1675	1725
24	1205	1310

280 E (284 Ott) (mixed)

Na Salicylate.

1	1825	1850
3	1700	1700
4	1640	1650
5	1720	1720
7	1710	1710
25	1310	1315
32	1415	1415
33	1465	1467
34	1435	1465

Cd

0072

281 E (2850#) Mixed

Na Nitrite

1	1780	1790
3	1640	1560
4	1560	1525
5	1645	1637
7	1635	1600
28	1200	1200

282 E (2860#) Mixed

Na. Phosphite

1	1660	1800
3	1560	1645
4	1525	1590
5	1645	1685
7	1600	1710
28	1295	1565
32	1335	1420
33	1400	1500
34	1365	1465

CO

OD 72

283 E (287 Ott) All red

Na Silicofluoride

1	1680	1575
3	1670	1560
4	1615	1510
5	1695	1600
7	1640	1600
25	1365	1215
32	1415	1220
33	1415	1280
34	1415	1285

(d)

284 E (288 Ott) Mixed

Na Biphosphate.

1	1275	1445
3	1435	1550
4	1400	1515
5	1600	1640
7	1535	1645
25	1200	1200

0572

285 E (289 Oct) Mixed

Na Fluoride

1	1605	X
2	1680	X
5	1565	—
6	1635	—
7	1680	—
8	1670	—
10	1625	
11	1600	

286 E (290 Oct) Mixed

Na Tartrate,

1	1600	1550
2	1555	1250
5	1500	1415
6	1590	1530
7	1645	1635
8	1685	1600
10	1625	1565
11	1595	1545

Manganese Bad

0 1072

287 E (291 Ott) Brown

Na Manganate.

1	1100	1155
2	650	755
5	845	860
7	915	940
8	955	945
10	875	880
11	855	870

288 E (292 Ott) black

Na Chromate.

1	1610	1615
2	1685	1670
3	1600	1585
4	1650	1640
6	1660	1655
7	1570	1565
9	1555	1525
10	1525	1500

26	950	1450	Hot 500 — 1415
27	1235	1450	
28	1240	1360	
29	1125	1500	
30	1200	1310	
31	1130	1260	

26	1105	1165	Hot 1425 — 1425
27	1600	1600	
28	1720	1720	
29	1745	1740	
30	1800	1765	
31	1835	1835	

0072

289 E (293 Ott) Light yellow

Na Stannate

1	1710	1550	12			
2	1665	1485				
5	1565	1460				
6	1655	1590				
7	1735	1615				
8	1750	1690				
10	1740	1675				
11	1685	1635				

290 E (294 Ott) Mixed

Na Sulphacarbonate.

1	1200	1150
2	1600	1400
5	1795	1655
6	1820	1725
7	1850	1790
8	1830	1750
10	1780	1645
11	1770	1665

26	2060	1350	Heat 1480 — 1255
27	1535	1260	
28	1720	1345	
29	1665	1190	
30	1595	1265	
31			

Oct 72

291 E (295 Ott) Mixed

Na Peroxide 10 grams · Violent reaction

1	1890	1315
2	1820	1400
5	1700	1320
7	1780	1485
8	1870	1500
10	1775	1455
11	1770	1440

292 E (296 Ott) Mixed

Na Butyrate

1	1550	1985
2	1500	1985
5	1415	1775
7	1590	1860
8	1595	1875
10	1570	1810
11	1565	1790

Chromium Bar

CD 72

293 E (297 Δtt) yellowish

Na Bichromate.

1	1120	1135	
2	865	855	
5	755	760	
7	920	915	
8	955	955	
10	875	875	Co

294

1	900	927
2	1113	1130
3	1150	1180
4	1160	1170
5	1217	1220
6	1223	1240
7	1263	1267
9	1277	1283
10	1287	1297
	10 hot	
21	1433	1440
22	1413	1417
23	1383	1390
64	1300	1383
65	1307	1340
66	1290	1323
117	883	790
118	1360	1367
119	1360	1407

Hot 533 550

Hot 883-790

Not any better than regular

294 – Reg green. hot soaked 48 hours in hot concentrated Nickel Chloride – both hot when put together – no excess liquid – (12) no free liquid but slice very moist outside each particle.

Dried –

Then put in 20% (NaOH) 24 hours –

Then washed practically free of Cl as tested by Ag Nitrate –

Both sent to Buchman with instructions for Analysis to make – (12) 294 + 295 –

295

1	717	683
2	973	933
3	1000	983
4	1060	1020
5	1107	1060
6	1110	1077
7	1167	1133
9	1200	1197
10	1200	1183
	10 Hot	
21	1360	1340
22	1427	1417
23	1413	1400
64	1110	1090
65	1107	1100
66	1090	1080
117	1040	1047
118	1063	1073
119	1063	1077

Hot cup 633–637

Hot cup 1240–1277

Check unknown with this

In Cock - 3 pm Monday

295 –

Same as 294. but Not Conc Cobalt Chloride used — it was put in when NiOH was hot,

Treated exactly as NickelCHL was —

Both made up in short tubes for test & Endurance —

(Tubes used just as came from Smith — They were very big full of KOH,
I heat them on steam plate —

296E old 173E old 4 yr wi—
Run by smith 23 times - finally separated
877-833 - Soaked 48 hours in
Conc CaCl cold - treated 20% NaOH
to washed free

see 243 X

297E old 174E treated
Conc CaCl cold 48 hours

	1V	1/2	1V	1/2	
61	172.5	182.5	100	112.5	Cold chg + 30 amp disch 35°F
62	180	189	91.5	113	" " "
63	182.5	188.5	120	132	" " "
64	183.5	190.7	10.8	19.5	Highrate 50 amp Cold 85
65	183	189	23.3	52.9	8/10 volt 70.8 "
66	182.5	193	175.5	183.5	normal.
67	190	193.5	180	186.2	Equilibrate 203.5 207
68	183	193.5	180	192.5	192.9 199.5
69	190	197.5	178.2	190.7	
70	181	191.5	178.5	199.2	
72	185	193.5	181.2	190	
73	179	188.5	175.7	182.5	
74	183.7	188.2	181.2	190	
75	185.5	196.5	176.5	184	
76	180	192.5	184.5	193	
77	187.5	197	180	187	
78	65.0	140	50	120	Highrate 100 Yellowk
79	68.2	133.2	58.2	130	" "
80	64.2	126.7	55.8	126.7	" "
81	155	164.2	148	157.5	Temp 130°
82	156	162.5	149.7	152.5	"
83	152.2	159.7	145	150	"
84	148	133.7	140	145.2	"
85	146.5	153	139	144	"
86	181	186	176	186.5	Normal
87	175	181.5	171	178	"
88	177	184	176	179	"
89	172	181	170	176	
90	165	173	164	171	
91	160	168	158	168	

298 - old 176 ~~Leaked Cone~~
Co cl Cold ~~1x6~~ 1 cell

Must be low drop in Electrolyte or it doesn't charge fast enough

Cobalt .9V

.9V				
92	168	177	167	177
107	174	187	174	186.5
114	180	188	180	199.5
118	175	188	173.2	186.2
	187.5	201.2	155.7	179.5
159	155	201	180	193.7

112 Tube.

8 8

Equilibrated 15

32	174.5	174	Cold runs after 6 Hot —
33	176.2	177	
34	175	178	
35	177.5	177.5	
36	172	170.7	
37	177.5	177.5	

	1 V.	.9 V	1 Volt	.9 Volt
38	180	189	180	189
40	179	187.5	177.5	187
41	183.5	189	180	188.5
42	185	195	183	195.7
43	181	189.5	180.5	188.7
44	174.2	183	175.2	181.5
45	182.5	190.5	181.5	188.5
46	176.5	186.7	175.5	186
47	177	187	176.5	186.5
48	175	177.5	176.5	178.5
49	160	162	160	163.2
50	152	158.7	152.2	159
51	140	147	140	147
52	145	150	143.5	148
53	145.5	149.2	146.5	151
54	172.5	177.5	172.5	178.5
—	177.5	182.5	177.2	183.5
56	172.5	179	174	181
58	170	179.2	173.2	183
59	167.2	176	170	177.2
60	175.5	183	176.7	184.5

See page back

gone on Hot 130° Fah

Hot

Hot

Need 3 hour correcting by measuring

240 F See book 1 Reg'n

Cobalt Conc Dyp

2 A 4 Cells — 0

112 tubes per cell

Run	1 V	½	1 V	½
1	121.7	125.7	121.2	126.2
2	114.5	125.5	114.7	125.5
3	125.0	135.0	125.5	133.2
4	127.0	142.5	127.0	143.0
5	135	148.7	133.0	149.0
9	142	—	143	—
10	156.5	175.5	154.2	171.5
11	156	173.5	154.5	170
12	156.5	171.2	154.	170.5
13	155	173	152	172
15	165	176.5	165.5	179.5
	Hot 120° Fahr			
16	148	—	150	—
17	145	—	136	—
18	159.5	—	160.	—
19	162.5		162.5	
20	175.2		175.2	
21	160.5		160	
22	170		169.2	
23	170		170	
24	171.5		171.5	
25	155.7		155	
26	155.5		155	
27	142.5		140	
28	146.		145	
29	145		145	
30	139		141.5	
31	170.5		170.5	

Equivalent is 120 Fahr 152 — 153.

Equivalent 167 — 165

normal run Reg'T

Equivalent 174.2 174.2

" 187.8 187.8

No on 6 runs 130° Fah

This capacity is at 130 hot.

6 Hot Runs

on broad Cmd

See opposite page

241-X ~~297~~

1	1175	1170	1280	1270
2	1180	1185	1200	1265
3	1440	1475	1400	1465
4	1385	1440	1385	1400
5	1400	1465	1400	1455
6	1440	1540	1450	1460
	1505	1525	1510	1515
	1455	1490	1455	1460
10	1360	1415	1345	1395
11	1385	1445	1335	1400

297 Marked X

241 E X Some Reg Tq mix from Silver Lake put in bottle + 6% sol of Sulphurous acid put in, Sol 1/3 more bulk than mix, it got hot from action was in several hours, until no more heat, then poured out put in water decanted twice, then thrown on filter, let 3' times water go then then alcohol twice, finally alcohol + went home in morning found the cone hot, took it out, + found tap part hard but hard

bottom soft + not dry — put in
Except tap part in big pie plate
When it commenced to steam
Stirred + let it steam till stopped
it jumped a little used pestle
after cap put in bottle,
It is fairly black

Will put up in 5 grams
packets big way

	Run 1		2	
1	320	315	550	540
Day 44	600	650	1085	1080
Run 2	845	810	1160	1185
3			1235	1350
5				
6	1300	1434		
6	1200	1300		
7	1285	1504	1235	1285
10	1055	1135	1200	1255
11	1120	1115	1200	1300

298

242E X

This is to hand tap part of 241 — on pulling in in pie plate & grounding it doesn't get hot showing it self heated during the night,

This has a dark ~~[illegible]~~ reddish color, in place notice a lovely — but pretty dark —

The Hot capacity 20th Run

	433	507
The		
	483	433
	383	433

→

297 X

243 E old 173 E from Smith soaked 48 hours Cobalt Chloride then 20% acid washed —

1	327	420	8	667	857
2	500	610	9	707	900
3	550	683	10	693	690
4	607	740	21	857	983
5	636	810	22	910	1017
6	647	833	23	957	1033
7	683	867			

300

Hot 10

244 E Same but old 174 E in Cobalt

X

1	417	357	8	760	857
2	580	540	9	807	777
3	640	603	10	793	760
4	700	667	21	953	907
5	730	693	22	1007	977
6	743	723	23	1023	1007
7	773	773			

10 Hot.

245 E old 176 E

X 301 Soaked Cobalt Chl —

1	333	433	8	617	820
2	463	617	9	667	800
3	510	680	10	660	850
4	557	750	21	767	1000
5	580	783	22	853	1043
6	610	797	23	907	1067
7	640	823			

10 Hot

246 —

1	1785	1785
2	1785	1800
3	1860	1875
5	1760	1800
6	1800	1870
7	1800	1875
8	1895	1795

246

10	1750	1885
11	1775	1880
12	1760	1885
26	1850	1850
27	1835	1840
30	1810	1810
31	1770	1770

10 hot

247

1	1790	1790
2	1800	1785
3	1875	1850
5	1800	1750
6	1875	1815
7	1885	1840
8	1820	1765

10	1900	1845
11	1885	1880
13	1880	1895
26	1485	1820
27	1835	1765
30	1465	1350
31	1755	1595

10 hot

248

1	1580	1600
2	1685	1735
3	1840	1850
5	1725	1750
6	1780	1820
7	1775	1840
8	1700	1735

10	1735	1795
11	1725	1790
13	1755	1895
26	1595	1850
27	1770	1780
30	1320	1455
31	1595	1700

10 hot

302
246 EX

232E grain Three 100 weeks
10% Ex reg fe 7 grain Cracker

303
247 EX same as 246 but grain
three 150 weeks 7 grain

304
248 EX same as 246 grain
three 150 weeks 7 grain

S S

249

1	1370	1600
2	1385	1285
3	1350	1300
5	1455	1360
6	1500	1430
7	1525	1500
8	1550	1465
10	1540	1445
11	1545	1485
13	1565	1510
26	1085	940
27	1325	1390
30	1370	1335
31	1390	1380

Note low

to that

305

249 E X

This is Ferrous Aluminum Sulphate. This was set up by Miller —

This sample went with

The Hot Saturated with

Lithia hydroxide —

2000 lbs pressure in Dise mould in Reg 12" Ram Dise press

It was not heated on plate

It got just barely warm —

Used 2 lbs to each Dise

As loaded unevenly only 2/3 was hard enough to crack & carry Chunk, 10 needed

Put Loader four last commercial fences in —

Miller is to feed 2 buckets each kind, & clean sand balance to works, to test if it grades OK —

250

1	1265	1275
2	1115	1290
3	1230	1340
5	1365	1390
6	1425	1430
7	1510	1510
8	1465	1495
10	1455	1455
11	1500	1500
13	1535	1535
26	960	960
27	1450	1450
30	1400	1400
31	1400	1415

10 that

306

250 E X Dup of 249 but
cast with 5% of 21 KOH,
Hardness is slightly in
favor of KOH.

251

1	1175	1270
2	1165	1275
3	1160	1300
5	1260	1400
6	1300	1435
7	1285	1510
8	1405	1515
10	1360	1525
11	1395	1550
13	1450	1594
26	870	1435
27	1300	1590
30	1335	1400
31	1385	1425

10 Ethal

252

1	1170	1170
2	1260	1250
3	1300	1265
5	1385	1355
6	1445	1350
7	1505	1505
8	1500	1465
10	1495	1455
11	1545	1490
13	1555	1500
26	1345	1280
	1465	1440
30	1400	1365
31	1395	1385

10 Ethal

307
251 – Lithium salicylate $2\frac{1}{2}$% solution used to offset than 5%

308
252 – $2\frac{1}{2}$% 21% KCl used –

309 to 332

given to Fred Ott

for his Ferrandum Sheffield

Iron pointed Triple

1945

309-E

1	1960	1973	
2	2054	2066	
3	2153	2167	
4	2200	2193	
6	2133	2087	
7	2060	1987	
11	2100	2107	
12	2060	1987	
13	2033	2013	
14	2000	2000	
15	2053	2053	10 Hot

28	1327	1287
29	1567	1540
30	1667	1720
31	1900	1793
32	1720	1713
33	1833	1827

310 E

1	1133	1667	
2	1486	1814	
3	1453	2120	
4	1567	2267	
6	2093	2233	
7	1980	2180	
11	2100	2313	
12	1987	2240	
13	2007	2227	
14	1953	2197	
15	2060	2287	10 Hot

28	840	1567
29	1167	1690
30	1653	[illegible]
31	1813	[illegible]
32	1720	1833
33	1820	1807

1945 [illegible]

311 E

1	1700	1833
2	1840	1974
3	2120	2213
4	2267	2333
6	2233	2227
7	2187	2200
11	2367	2313
12	2213	2220
13	2227	2220
14	2247	2193
15	2303	2260

28	1447	1580
29	1913	1953
30	1973	[illegible]
31	1953	1953
32	1907	1953
33	1950	1957

312

313

314

315 & 316 E Ferrous Aluminum Sulphate #1945 & 1946

Iron powder 2000 C.C., 12" Ram, 4" die - Screen through 10 mesh & on 100 mesh - Loaded in loading Machine - put in frame by Smith Mean pressed reg - 149 Corrugating —

1	2054	2174	
2	2013	2200	
3	2000	2200	
5	1960	2100	
6	1847	2300	
8	1807	2160	10 lbs
21	1573	1767	Hot 1433-1427
22	1653	1767	
23	1713	1853	
24	1673	2193	
28	1853	1853	
29	1807	1987	
31	1867	2127	
32	1833	1987	
36	1720	1953	

Unworked

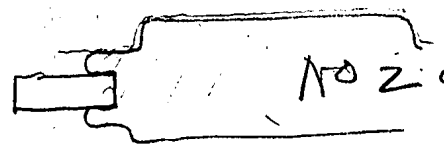
31	2320	2127	
32	2193	1993	
36	2133	1973	Co

317
318 E Same as 315, 316 Except Stamped with Otis No 2, Company Die.

1	2220	2134
2	2320	2200
3	2333	2227
5	2227	2133
6	2187	1993
8	2153	1953
21	1600	1600
22	1807	1773
23	2053	1907
24	2070	1853
28	2240	1980
29	2207	2053

10 Hat Hat cap 1427-1427

P



No 2 die

31	2320	2253	
32	2227	2100	
36	2187	1967	Co

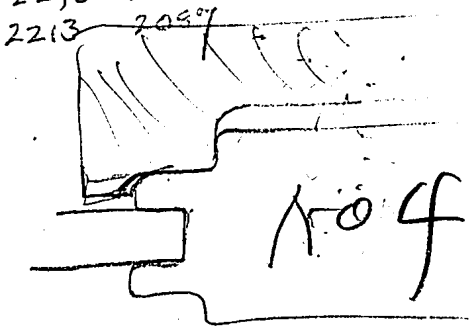
319 { E 315
320 { Same as 316 Except
Crimped with OCC No 3
Crimping Dies -

1	2286	2214
2	2353	2133
3	2375	2227
5	2273	2167
6	2200	2060
8	2233	2060
21	1767	1767
22	1913	1913
23	2093	1927
24	2013	1960
28	2240	2120
29	2213	2097

1593-1413

Is that Hot Crimp?

just pressure little more



No 4

Sum			
21	1920	1600	- Hot cons 1473 – 1420
22	1907	1920	
23	1927	1847	
24	1953	1947	
28	2180	2020	
29	2200	1993	
31	2268	2120	
32	2180	1993	
36	2100	1947	Co

Ferrous Ethy SO3 Iron 1945 gmm

326E
322S Mout with 5% of a 5% sol of KOH, pressed 2000 lbs in die. 4th die, 200 gmm Cake - ground screened thru 10 on 100 leaked in loading more put in frames by mullers upon pressed & Corrugated Pan

1	2260	2346
2	2253	2340
3	2227	2267
5	2130	2093
6	1980	1980
8	1920	1907
~~28~~	~~2180~~	~~2020~~

21	713	1583	11 of war 1473 – 1480
22	947	1787	
23	2140	1947	
24	2153	2080	
28	2333	2240	
29	2353	2300	
31	2453	2333	
32	2360	2167	
36	2327	2033	Co

323 } Same as 321-22 – except
324E } Crumped offs TO 2 die –

1	2166	2066	
2	2315	2140	
3	2373	2160	
5	2307	2153	
6	2253	2060	
8	2320	2067	Hot
~~26~~	~~2373~~	~~2140~~	

OK

~~Recorded~~

21	1947	1920	Hat was 1540 – 1527
22	1920	2200	
23	2147	2360	
24	2153	2213	
25	2260	2353	
29	2353	2367	
31	2347	2427	
32	2227	2347	
36	2247	2327	Co

325 E same as 321-2 except
326 Crimped in OTC No (3) die
probably 2

1	2134	2134
2	2233	2260
3	2227	2227
5	2133	2133
6	2267	2267
8	2127	2087

21	1467	1360	Hardness 1653-1480
22	2320	1953	
23	1947	1913	
24	1957	1900	
28	2187	2100	
29	2200	2087	
31	2267	2260	
32	2207	2087	
36	2207	2053	Co

327 E Ferrous Wt 450 g # 1945 Yum
328

Moulded with 5% of 21% NOT
pressed 2000 lbs 12" Ram 4" die
ground from 10 mesh on 100
loaded in Machine put in
frame by Quality man Wed
Req disc, Co Cor

1	2040	2026
2	2100	2113
3	2130	2227
5	2133	2133
6	2180	2180
8	2060	2033

21	1627	1513
22	2253	1950
23	1567	1927
24	1547	1952
28	2053	2060
29	2067	2067
31	2260	2127
32	2093	1967
36	2033	2047

Hatch 1457-1547

329 } Dup 327-8 Except
330 E } Crimped Offs No 2 die

1	1934	1906
2	2013	2027
3	2100	2127
5	2033	2113
6	2000	2120
8	1867	1980

21	1533	1533	Hatwon 1593–1700
22	2000	2000	
23	2053	2000	
24	2087	2087	
25	2020	2000	
26	2093	2013	
28	2193	2167	
29	2233	2193	
31	2253	2233	
32	2193	2167	
36	2087	2000	

331 } Dup 327–8 – Except
332 } Crimped offs x 3 die –

probably die

1	1826	1814
2	2007	1960
3	2133	2113
5	2133	2120
6	2143	2013
8	2000	1907

252 BX

1	1967	1987
2	2060	2080
3	2100	2153
6	1973	1960
7	1853	1893
9	1867	1833
26	1713	1713
1		

— 2 hours overcharge

8 gram Ferrous Ammon Sulphate Titrik —
Loaded by Archer
100 Mixed —

249 BX

Marked BX

1	1767	2120
2	1740	2046
3	1813	2060
4	1820	2000
6	1787	1953
7	1746	1853
9	1807	1800

250 BX

1	2060	2073	26	1713	1820	
2	2094	2080	27	2150	1847	2 hours overcharge
3	2087	2153				
4	2130	2133				
6	1993	2007				
7	1893	1900				
9	1867	1913				

251 BX

1	2053	2000	26	1987	1720	
2	2080	2054	27	2500	2200	2 hours overcharge
3	2153	2120				
4	2160	2107				
6	2080	1967				
7	2000	1858				
9	1980	1913				

333

19	2633	2400
20	1337	1700
21	1850	1750
22	1875	1725
23	2413	2667
24	2587	2567
25	2667	2667
26	2613	2533
27	2567	2500
28	1837	1775
29	1887	1850
31	2840	2747
32	2867	2667

750 rate

Normal	33	2927	2907
	34	2773	2787
	35	2653	2667
750 rate	36	1875	1900
"	37	1662	1850
"	38	1662	1962
normal	39	2813	2820
400 rate "	40	2750	2727
"	41	2440	2448
"	42	2673	2680
"	43	2640	2653
"	44	2700	2733
taccentaway	45	2740	2747
×	46	2225	2253
Higher rate	48	2325	2225
normal	49	3047	3067
	50	2667	2770
normal rate	51	2667	2747

750 rate
"
normal

334

19	2647/2380	
20	1850	1850
21	1937	1925
22	1687	1975
23	2833	2773
24	2767	2587
25	—	2520
26	2707	2440
27	2567	2467
28	1975	2000
29	2087	1977
31	2940	2760
32	2907	2780

750 rate

normal	33	2973	2800
	34	2740	2653
	35	2667	2573
750 rate	36	1912	1987
400 rate "	37	1850	1987
"	38	1975	2056
normal	39	2773	2773
"	40	2833	2613
"	41	2820	2507
"	42	2793	2533
	43	2767	2533
	44	2780	2600
Higher rate	45	2813	2690
	46	2150	2162
normal	48	2187	2262
	49	3033	2920
	50	2760	2620
	51	2793	2520

750 rate
"
normal

333 F

Press 2 irons with #4 Crimping die, then die crimp Edges only

750 rate

1	2633	2633
2	2320	2200
3	1900	2033
4	1325	950
5	1450	587
6	1500	1187
7	2483	1973
8	2400	2167

Note

750 ma. rate
750 "
750
normal

9	2540	2340
10	2387	2080
11	2467	2233
12 ×	1387	1675
13 ×	1712	1337
14 ×	1187	800
15	2420	2387
16	2387	2277
17	2867	2680
18	2627	2660

normal
normal

334 F

Press 2 irons with [illegible] die first — then crimp with [illegible] #4 Crimping die

750 rate

1	2620	2400
2	2236	2133
3	2147	2207
4	1300	1412
5	1275	1600
6	1387	1662
7	2313	2433
8	2193	2440
9	2500	2500

Normal 400

750 ma rate
750 "
750
Normal rate

10	2553	2387
11	2360	2360
12	1712 ×	1750
13	1925 ×	1937
14	1711 ×	1975
15	2420	2407
16	2587	2527
17	2873	2807
18	2547	2580

333 — 158 Rm 1933 — 2013
334 158 " 2373 2227

750 rate Continued further on

335

19	2660	2627	Normal	33	3080	2933
20	2087	1975*		34	2967	2900
21	2000	2000	Normal 350° fake	35	1713	1547
22	2137	1975	"	36	1720	1520
23	2940	2813	400 rate "	37	1967	1847
24	2880	2733	"	38	804	1400
25	2827	2780	"	39	2233	2000
26	2787	2667	"	40	2470	173
27	2927	2640	"	41	847	353
28	2225	1987	Half rate "	42	513	453
29	2162	2000	"	43	1800	1860
31	2947	2800	"	44	1400	953
32	2913	2760	Normal "	45	1867	1913
			750 rate "	46	180	180
			"	48	773	760
			"	49	247	227
			"	50	2340	933
			"	51	133	167
			Normal	52	3220	2367

336

19	2620	2620	Normal	33	2987	3047
20	2062	2062		34	2993	2880
21	2075	2075	Normal 35° fake	35	1660	1573
22	2062	1933	"	36	1687	1420
23	2813	2833	400 rate "	37	1900	2000
24	2740	2773	"	38	1507	1787
25	2800	2813	"	39	2000	1333
26	2667	2667	"	40	193	387
27	2660	2653	"	41	333	1133
28	2162	1975	"	42	440	333
29	2162	1987	Half rate "	43	1993	1680
31	2933	2947	"	44	1067	1533
32	2867	2920	"	45	4533	200
			Normal 35°	46	2000	1240
			"	48	233	340
			"	49	200	267
			51-133 133 Normal 52 3213 3213	50	1980	197

Upto 34th Run this is best

335 —

335 E

Press 2 rows with #4 off crimping die first, then press with point die —

750 rate

1	2667	2533		9	2453	2387
2	2240	2133		10	2387	2327
3	2207	2100		11	2387	2260
4	1300	1250	750 - Ma rate	12	1787*	1725
5	1362	1287	750 "	13	1750*	1750
6	1387	1262	750	14	1775*	1637
7	2220	2187	Normal rate	15	2753	2587
8	2200	2180	Normal	16	2620	2513
				17	2947	2820
				18	2827	2700

336 — 8 gun pilot pressed in off #04 die. Then corrugated it in his old Scovy Corrugating die

750 rate

1	2620	2667		13*	1787	1750
2	2133	2240		14*	1887	1650
3	2087	2153		15	2600	2600
4	1175	1250	750 Ma rate	16	2527	2527
5	1300	1350	750 "	17	2880	2853
6	1250	1387	750	18	2787	2747
7	2193	2220	Normal rate			
8	2173	2180				
9	2393	2453				
10	2333	2347				
11	2347	2340				
12	1737*	1475*	750 fake			

	#1	#2	Hot	
34	1900	1905	1440 1225	normal after 10 hot
35	2090	2050		
36	1725	1685		
37	2100	2080		
38	1950	1960		
40	2230	2195		
41	2260	2250	CO	
42	2055	2065		

337 E is 1 lb old 4 yr ⅞ bedded once 24 hours with 600 cc of 3% Sol of Sulphurous Acid — ~~Recut to~~ washed 4 or 5 times quickly in water — dried in air 24 hours. Cut to ⅛ III — pretty yellow

338 E 2 pockets of 337 crushed & screened thru 150 mesh 5 grams mixed with 2 grams neo seal ⅞ — making 7 gram pockets

1	1375	1390	12	2115	2115
2	1925	1965	13	2050	2110
3	2090	2105	14	2155	2145
4	2150	2140	15	2300	2275
5	2100	2100	16	2180	2170
6	2085	2055	17	2130	2130
7	2135	2135	18	2235	2190
8	2120	2125	19	2000	2000
9	2075	2075	20	2095	2085
10	2070	2065	21	1810	1805
11	2065	2065	22	2100	2100
			23	2155	2190 — Heat

22	1800	1890	
23	1825	1895	
34	1590	1735	1375
35	1885	1930	1355
36	1500	1560	
37	1740	1875	
38	1725	1780	
40	1975	2065	
41	1890	1985	
42	1755	1840	

Kat

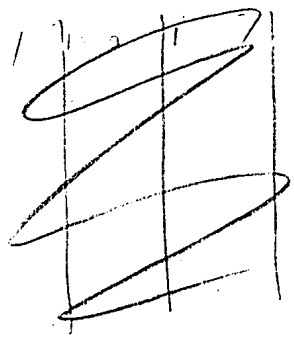
10 Kat normal

Co

339E to 337 from 150 week
2 grids — 7 grains used no
green wave used —

1	580	640	12	1805	1835
2	885	900	13	1765	1850
3	1400	1425	14	1810	1865
4	1795	1800	15	1950	2040
5	1800	1860	16	1860	1925
6	1820	1910	17	1825	1875
7	1850	1970	18	1895	1900
8	1830	1860	19	1755	1820
9	1790	1835	20	1785	1815
10	1750	1800	21	1800	1880
11	1750	1800			

340E to 166 of old wave
same lot as 337. but not
treated — 7 gm



See 341

13	1895	1940	
14	1985	1995	
15	2090	2145	
16	1965	2000	
17	1915	1965	
18	2000	2010	
19	1990	1960	
20	2100	2200	
21	2090	2115	
22	2090	2092	Hot
23	2040	2150	10 Hot
34	1515	1500	1275 1300
35	1670	1740	
36	1225	1330	
37	1580	1625	
38	1560	1620	
40	1725	1795	
41	1730	1785	
42	1675	1695	

						Hot
13	1590	1660	34	1655	1510	1250 1375
14	1635	1800	35	1740	1720	
15	1945	1950	36	1235	1215	
16	1720	1750	37	1600	1600	
17	1675	1730	38	1550	1545	
18	1710	1715	40	1685	1680	
19	1630	1680	41	1625	1620	
20	1670	1675	42	1510	1510	
21	1600	1710				
22	1590	1700				
23	1710	1745				
2		10 Hot				

341 – 2 packets – 340 grams then 150 need 5 grams mixed with 2 grams need now –

1	1810	1885	7	1980	1985
2	1960	1990	8	2000	2000
3	1940	1985	9	1920	1945
4	1990	2000	10	1870	1950
5	1895	1930	11	[illegible]	1900
6	1920	1920	12	1890	1905
8					

342 – Same as 341 Got 7 grams of 340 then 150 – no need now –

1	1490	1560
2	1600	1670
3	1625	1675
4	1670	1720
5	1600	1670
6	1650	1715
7	1770	1770
8	1770	1770
9	1685	1680
10	1600	1665
11	1600	1665
12	1690	1695

There are 2 A4 with Tin — Tin is good - but 335 + 336 Reg iron is 3200. [redacted] What there is very little advantage in using it, tho it gives 3900 7 gm

13	3145	3035	42	855	255	195-165 at 35° fah
14	2945	2765	43	285	250	normal
15	2960	2930	44	300	285	
16	3050	2980	46	265	250	
17	2675	2620	47	245	250	
18	2700	2615	48	265	270	
19	2750	2535	49	245	240	
20	2495	2535	50	275	265	
21	2825	2595	51	280	250	
			52	270	190	
32	2090	2165		104 normal	Hot Cap 1435-1460	
33	2540	2450				
34	2120	1860				
35	2375	1975				
37	2375	1940				
38	170	145		35° fah		
39	155	130				
40	180	150				

49 grams for only

ng on Low Temp

13	3350	3410	35	3665	3580	
14	3270	3100	37	3670	3530	35° fahr
15	3225	3345	38	335	330	
16	3320	3375	39	315	295	
17	3250	3435	40	295	250	
18	3050	3085	42	3740	3570	—210-210 at 35°
19	3000	3200	43	3830	3635	normal
20	3115	3170	44	3725	3525	"
21	3390	3430	46	3710	3575	"
			47	3750	3625	"
32	3615	3535		Hot normal	Hot Cap 1570-1550	
33	3545	3520	48	3695	3570	
34	3225	3300	49	3775	3675	
			50	3675	3500	
			52	3665	3570	
			53	3615	3720	
			55	3500	3555	

343E

Ferrous Ammonium Sulfate Iron is not as good as Regular Iron

This is Ferrous Ammonium Sulfate 6% Hg sent up in Tin Can - July 20 th [illegible]

20% of Stannous Oxide is mixed with it — Reg 5 grams packets 750 rate

1	3060	3200	7	3070	3130	
2	2600	3225	8	2537	2625	
3	3000	2925	9	2551	2750	
4	2950	3070	10	2412	2412	300 rate
5	3190	2530	11	2600	2075	
6	3070	3130	12	3125	3000	
7	3250	3270				

344E Same as 343E but 7 grams packets. 750 rate

1	3665	3895	8	2775	2910	
2	3400	3500	9	2775	2787	
3	3340	3390	10	2775	2900	
4	3300	3425	11	2700	2700	300 rate
5	3200	3135	12	3345	3415	
6	3215	3310				
7	3215	3310				
8	3285	3355				

169 / 3734 / 3625

12	625	25	
13	25	20	
14	165	40	
15	10	60	
18	70	50	
5 Hot	10	5	

C6

345 E

Tin reduced by H from oxide

Mixed with 3% HgO

Received 5 gram Cakes

1	65	50	10	820	500
2	250	280	11	255	535
3	730	690	12	60	320
4	1050	945	13	15	[illegible]
5	1165	585	14	155	75
6	630	465	15	20	160
7	275	475			
8	645	×	18	70	10
9	140	295			

346 E

Tin reduced by H [illegible] from Oxide Mixed 3% HgO

7 gram Cakes

1	75	160	7	970	1185
2	260	320	8	765	
3	213	915	9	995	135
4	585	1125	10	705	35
5	790	1000	11	550	65
6	1400	[illegible]			

	Pressure device	Regular
10	2000	2200
11	1900	2187
12	1987	2353
13	2087	2253
14	2073	2387
15	2033	2360
16	1960	2213
17	1940	2253
18	1853	2187
19	1733	2370

C0

347 E

Pressure device packet

Smith puts 2 leg factory packets in runs twice with no pressure then twice with 1000 pressure & so on increasing pressure

Each 2 runs

	Pressure	Regular check
1	2760	2753
2	2260	2240
3	1993	2153
4	2113	2267
5	2087	2327
6	2000	2260
7	1973	2207
8	2000	2180
9	1953	2167
10	2000	2200

pressure increased

Screwed up again

Screwed up again before the run

Screwed up again

Jim Stewart no good

348E

750 rate

	Cop Hot	19	20	21	22	23	24	25	26
Reg	1300	1333	1287	1426	850	950	775	1627	1255
"	1185	1160	1153	1175	737	687	650	1213	870
"	1190	1587	1467	1554	1087	1062	987	1800	1270
"	1150	887	880	894	562	612	462	840	560
Oxi 2	1433	1187	1640	1547	925	1050	1225	1867	1907
"	1480	1147	1320	1333	937	975	987	1907	1933
Oxi 4	1473	1347	1347	1443	812	962	962	1867	1940
"	1527	1833	1833	1867	1225	1325	1387	2513	2487

#9 to 18 were hot runs.

750

	27	28	29	30	31	32	33	34
Reg	1340	1467	1580	1087	1087	1112	1667	1840
"	1213	1180	1187	737	800	687	947	1160
"	1233	1367	1427	1012	900	862	1260	1540
"	760	767	1120	487	450	437	760	567
Oxi #2	2100	1867	1833	1200	1075	1150	1833	1967
"	2113	2040	1967	1262	1162	1257	2073	2127
Oxi #4	2340	2107	1973	1262	1162	1250	2073	2133
"	2527	2633	2433	1587	1587	1700	2940	2693
Reg	2613	2600	2600	1800	1862	1862	2633	2640
"	2667	2727	2667	1912	1925	1900	2620	2633
"	2653	2653	2600	1912	1862	1862	2573	2620
"	2067	2133	2200	1425	1375	1370	2120	2180
Oxi 2	2767	2640	2647	1962	1925	2012	2573	2540
"	2727	2567	2587	1962	1937	2012	2573	2520
Oxi 4	2767	2607	2633	1950	1937	1997	2627	2583
"	2720	2567	2600	1937	1975	2025	2627	2520

750

	35	36	37	38	39	40	41	42
Reg	1973	2047	2040	1275	1087	787	1900	1953
"	1080	1173	1007	650	562	512	940	1040
"	1420	1547	1293	750	662	25	1187	1087
"	647	767	453	250	312	162	400	373
Oxi 2	1820	1953	1973	1375	1287	1200	1707	1800
" 2	1973	2107	2100	1500	1550	1450	2187	2227
Oxi 4	1973	2120	2133	1500	1580	1412	2180	2233
Oxi 4	2480	2620	2627	1800	1675	1750	2687	2573

Original Solution in — H2 will put solution in Red color in lieu of impurities —

750

	51	52	53	54	55	56	57	58
Reg	1960	1953	1933	1175	1187	1250	1907	1967
"	707	647	747	362	425	450	780	733
"	973	907	953	187	500	650	867	720
"	353	347	360	137	175	187	333	300
Oxi 2	1720	1673	1680	1100	1062	1000	1567	1667
"	2267	2160	2107	1400	1387	1337	2107	2133
Oxi 4	2227	2100	1970	1312	1312	1162	1980	1973
"	2707	2467	2400	1687	1562	1562	2593	2527

Runs above made without or before renewing Solution —

Test of Reg vs Off's die No 2 & Reg & No 4 — 348

		1	2	3	4	5	6	7	8
					750				
Reg	1999	2333	1867	1753	1037	1087	1000	1713	1687
"	2000	2487	2000	1933	1100	1187	1100	1680	1707
	2001	2033	1967	1973	1037	1000	1037	1847	1813
	2002	2360	1750	1687	900	937	950	1680	1620
Off No 2	437	2587	2143	2277	1412	1400	1437	2253	2087
"	438	2580	2247	2320	1500	1500	1600	2387	2360
Off No 4	439	2593	2393	2427	1600	1650	1637	2487	2480
	440	2620	2400	2493	1725	1775	1837	2747	2660

Been on hot, See page back

Will run hot 15 more than test again

No 4 die crumpis edges only
See How 4 die was used primarily & was used with smooth primary die before pressed with 4 die

Smith says no smooth primary die used. No 2 presses center some No 4 don't press center at all only Edges

348 Smith

		750
average	1707	972
Off No 2	2223	1519 -
Off No 4	2570	1737 -

Reg is only 66% of No 4
& 750 rate only 55%

Looks very much as if we wanted porosity in Brass must have KOH in pores to bring about reaction,

Possibly work better yet if not packed so hard in machine & Rocky Ferrous Ammonium Hydroxide used

High decay rate 100 amp 4 grams

750 rate

	2		4		2		4		#4 Dieback Capacity high decay rate
20 X	1437	1712	1862	1875	1962	2125	2150	1962	
21 X	1412	1650	1725	1725	1937	2037	2112	1937	
22 X	1375	1600	1750	1725	1937	2137	2137	1937	
23	2113	2487	2493	2440	2873	2907	2833	2740	normal
24	2060	2380	2420	2313	2760	2833	2720	2600	
25	2347	2680	2613	2487	3027	2947	2853	2713	
26	2253	2573	2513	2387	2920	2853	2720	2607	
27	2213	2507	2447	2327	2867	2787	2687	2580	
28 X	1662	1937	1837	1750	2250	2250	2137	1950	750 "
29 X	1587	1712	1937	1737	2212	2337	2125	2075	"
	1014								1.4 Hot
40	2193	1847	1867	1867	1920	1893	2233	2247	Hot Cap
40	1600	2053	2093	1867	2347	2400	2047	1940	normal
41	1700	2100	2120	1820	2400	2400	2053	2000	
42	1760	2120	2113	1867	2400	2400	2107	2107	
43 X	1350	1662	1662	1412	1812	1887	1675	1675	High decay
			1550	1337	1625	1820	1562	1437	
44 X	1225	1537							
46	2187	2540	2540	2373	2647	2740	2600	2467	Normal
47	2207	2513	2513	2333	2653	2773	2633	2487	"
48	2133	2447	2533	2260	2620	2733	2533	2387	"
49	2167	2487	2487	2327	2620	2727	2453	2347	"
50	2093	2400	2413	2207	2600	2627	2400	2340	"
51 X	1500	1800	1862	1625	1862	2062	1800	1662	High rate
52 X	1562	1850	1862	1750	2000	2162	1937	1850	750 "
53 X	1500	1812	1825	1625	2000	2212	1937	1837	
54	1494	1746	1840	1586	1840	2040	1786	1746	800 Dead
55	1534	1800	1826	1574	1960	2080	1800	1760	"
56	1440	1774	1840	1600	1974	2175	1774	1776	"
57	1494	1774	1866	1560	1960	2134	1774	1760	"
58	1520	1854	1934	1666	2106	2214	1934	1854	880 MC dead
74	1266	1694	1800	1534	1734	2000	1534	1574	
81	1248	1737	1756	1386	1734	1734	1400	1600	Grows
85	1200	1774	1786	1425	1894	1866	1294	1546	
127	854	1334	1280	1494					

349 Fred Ott - Experiment with Ferrous Ammonium Sulfate iron in pockets, crimped 50 of Ott die only 1.0 Gr

Run like 348 Switch — 750 Rate

Ferrous Ammonium Sulfate

	Ott #2		Ott #4		Red Ott 2		Red Ott 4	
1	2000	2033	1967	1660	2667	2592	2587	2533
2	1987	2033	2133	1847	2120	2133	2173	2173
3	2000	2213	2160	1973	2113	2113	2213	2207
4 X	1312	1450	1287	1312	1525	1487	1450	1512
5 X	1275	1387	1287	1287	1487	1487	1462	1473
6 X	1312	1450	1525	1487	1287	1312	1450	1512
7	2213	2373	2460	2373	2353	2353	2567	2677
8	2067	2280	2327	2280	2233	2233	2387	2460
9	2347	2453	2473	2467	2453	2453	2520	2520
10	2147	2320	2407	2300	2413	2413	2387	2387
11	2107	2320	2400	2280	2413	2413	2513	2573
12	1437	1587	1650	1625	1625	1750	1775	1775
13	1412	1500	1612	1580	1615	1712	1787	1712
14	1350	1525	1637	1562	1687	1775	1837	1775
15	2200	2427	2547	2500	2647	2693	2713	2640
17	2267	2593	2633	2547	2847	2793	3147	2647
18	2367	2573	2647	2640	2800	2873	3067	2553
19	2347	2533	2587	2540	2773	2840	2920	2600

~~50% of the total~~
MnO_4.

As $1\frac{1}{2}$% comes
off surface this
leaves $3\frac{1}{2}$% come out
after 250 times,
12.5 grms Nickel
18 grms MnO_2
less than $1\frac{1}{2}$%
of the total
MnO_4.

2 cells that Smith some time ago
took out regular block formed
up from enclosure about
200 times, got a little lower
than it allowed — Cut them
open & found account
185 grms Sodium carbonate in each
A4 — Nearly Nickel —
get analyses

Took 2 more A4 formed as
just ready to drop — Cut
open — following analyses

#1	#2
25 grms Sediment	23 grms
Sodium carbonate	
1.4% Hg	0.77 Hg
22.39 Fe	15.39 Fe
45.49 Ni	52.05 Ni
0.3 insol	0.3 insol

Cell number 7318B 7444B.

350 E is Dup of Reg No. 04.
from S Lake No 4964 –
Incolcant Lichen, to Continue
the hot test

In orig test it was		Cold	10 Mint
		1290	1463
		1293	1423
50	100		
1283	1117		
1287	1067		

Something Rotten

	V	.9 V	
173	175.5	182	
174	181.2	186	
176	183	186	
177	179	182	
178	175.7	179.2	
179	167.5	171.7	
180	185	188.7	
181	175.7	180	
182	175	180	
183	37.5	81.7	High rate
182	56.7	106.7	" "
185	43.3	103.3	
186	175	183	130 Factor
187	175.5	192.5	"
188	180	186.5	"
189	177.5	184	"
190	180	187.5	
191	183.2	187.2	normal
192	178.5	182.5	
194	174	178.5	
208	203.5	206.7	
215	200	202	
219	200	204	
260	198	202.7	
269	196	200	

Bismuth Cells seems no good on heavy discharge rate Think the Iron has gone bad – put in Oct 4 die 7 gram Iron

351 E

Bismuth Cells 2 Fa To Each Ni plate
Hydrate 62 Bi Ni —

120 Factor

Run	148 1 Volt	1/2	
# 148	199		Hot.
149	210.7		Normal Temp
150	161		
151	192		
152	193.5		
153	193		
154	192.5		
155	189.5		
156	189	191	
157	192.5	194.5	130 Factor
159	193	195.5	"
160	183.5	187.5	"
161	183.7	187.2	"
162	187	188.5	"
163	194.7	200	"
164	202.5	205.5	"
165	192.5	197.2	"
166	197.5	202.5	"
167	191.5	195.5	Normal temp
168	185	190	"
169	179	183	"
170	170	175	"
171	172.5	178.5	
172	175	178.5	

352

	V	1/2	V	1/2	
6	70	96.5	70.0	96.6	
7	67.5	95.5	67.5	95.5	get more uniformity on chamber
8	75	97.9	76	97.8	
9	80	102.1	80	102.7	
10	84.2	107	84.2	107.8	
11	85	105.5	85	106.1	
12	85	107.5	85	108.2	
13	85	108.7	86	108.7	
14	86.7	107.5	87.5	110	
15	85	107.5	86.2	111.2	
16	86.5	108	86.5	109	pretty good development
17	85	106.7	87.5	107.5	
18	57.7	97.2	61	102.5	
19	64	98.7	70	103	Highwater choking
20	67.7	99	69	104	
21	95	106.7	95.7	110.6	Normal
22	93.5	105	97	107.5	"
23	92.5	104.5	96	109	"
24	96	105.7	97.5	109	"
25	97.5	107.2	98.7	109.2	"
26	94	106.7	96.5	109.5	"
27	94	104.7	95.2	107.2	"
28	94.2	105.2	94.7	107.6	"
29	92.8	103.7	95	108	
30	92.5	104.3	95	107.3	
31	97.2	108.2	96.8	111	
32	96.2	109.5	99.5	112.2	
48	98.5	106	100.6	109.2	
53	100	106.2	105	111.2	
57	103.2	108.5	102.5	111.7	
101	105.5	114.5	107.5	117	

352E

Bulleseum type plate from New Nowell Crimping Die

These 2 Cells are B4 & the Cutter will get considerable more pressure than it showed as packed in Thicker than Bullseum type for which die was made for

27	204.2	216	203.5	217.5	
28	115	198.5	110	197.5	Highmark
29	119	210	117.5	207.5	
30	152.7	161	152.5	156.7	
31	154.2	156	147.2	149.5	130 Fahr
32	148.5	156.5	146.2	149.2	"
33	143.5	147.7	141	143.2	
34	144	147.7	140.7	142.5	
35	207	216	209	218	normal Temp
36	198	212	198.5	212.5	"
37	205	226.7	203.5	217.7	
38	198	214.5	198.5	214	normal
39	182.7	200.5	184	200	"
40	178.5	196	180	195	
41	206.7	220	206.7	217	
56	202	217.5	203	214	
63	212.5	224.5	211.5	221.2	
65	195	210.7	199	210.5	
105	190	204	192	204	
115					

Important to find out if Check cell is reading right

353 — OH No 4 die for Jones —

Fe 3011 — Min 2104 —

Run		1/2			
3	165	178	161.5	177.5	12 hourly
4	168.5	184.5	166.5	185.7	
5	170.5	186.7	170	186	
6	153.	—	147.5	—	7 Hourly
7	160.5	—	157.5		"
8	162.	—	161.2	—	
9	156.5		155		
10	182.5	208.5	185	208.5	
11	185	209.5	190	209.5	
12	187.2	203.5	188.2	201	
13	197	208	196	207.2	
14	194	206.2	194	206.	V to 1/2 13
15	198	211.7	200	213.5	
16	192	205	192	205	
17	198.7	210	198	210	
18	200	210	200.5	211.5	
19	198.7	210	198	210	
21	206	217.7	206.7	220	
22	200	210.7	201.7	213	
23	206.5	216.2	206.5	217.5	
24	201	211.5	201.2	214.7	
25	203	215	203	216.5	
26	205	217	205	218.5	

21	207	219	203.2	212.7	
22	205	214	200	211	
23	210	220	207.5	218.7	
24	205	215.5	201.2	214.2	
25	208.2	217.2	203.	216	
26	208	218.5	202.7	216.2	
27	207.2	218.2	203.2	215	
28	115	205	120	206	
29	116	203.3	105	203.3	
30	116.7	213.3	117.5	213.3	
31	153.2	157.9	154.2	160	
32	148.2	151	154.7	156.7	130 falls
33	147.7	150.7	152.5	155.7	"
34	142	144.5	148	150.5	"
35	142.5	145	148	150	Normal lamp
36	210	218.2	206.5	214	
37	197.5	213.5	196.7	214	
38	203	219.2	200	224	
39	200	216	197.5	216.2	
40	185	201.5	181.2	202	
41	181.5	197.5	177.5	197.2	
56	207	218.2	205.5	218.2	
63	203.5	216.5	200	210	
65	212.5	223.5	210	222	
105	199	213	198.2	211.5	
115	193.7	207.3	193.2	206.7	

OK Cuf opcua
found OK —

354 — from Mix 2109 find out

7e! , 3011 - Mix 2109

Think Mistake here
code like
receive #4

Reg Corrugated
+ Reg
Check on 2153 E

3	172.5	183	170	181.2	
4	181.5	193	174	190.5	
5	179	192	175.2	190.5	Hunchy
6	160	—	157	—	"
7	167.5		165		
8	165		163		
9	167		162.5		
10	192.5	209.5	187.5	205	Long Chge
11	195	209.7	190	207	
12	191	202.5	186.5	202.5	
13	197	208	194	207	
14	195	207.5	192.5	205.5	
15	201.5	214.2	196.2	211	
16	195	208	191	203.7	
17	200	211	197	209.4	
18	202.7	210	199.2	212	
19	201	211.5	196	206.5	

355

6	73	98.2	73	97.7	
7	87.7	96.2	87.5	97.0	
8	77.5	100	75.5	98.6	
9	82.5	105	82.5	108.7	
10	87.5	110	87.5	108.7	
11	87	106.7	85.5	106.	
12	87.5	109	87.5	108	
13	87.5	109	87.5	108.7	
14	91.7	110.7	92.5	110	
15	88.7	111.5	90	110.2	
16	90	110	90.7	108.7	
17	89	110	89	110	
18	65	103	63.2	103.5	Highly oily
19	70.5	103	70	105	
20	69	104.7	70	109.7	Varnish
21	95.5	109.6	96.1	106.5	"
22	97	106.5	95.5	107	"
23	96	107	96.3	107	"
24	97.5	106.7	97.1	108	"
25	98.3	108.7	98.7	102.5	"
26	96.5	107.0	96.7	105.7	
27	96.5	105.2	97	106.6	
28	95.3	105.5	95.7	105.7	
29	96.2	106.5	96.2	105.3	
30	95.2	104.7	96	110	
31	98.3	110	98.5	110.5	
32	99.5	110.5	100	106.7	
48	100.6	107.2	100.6	107.7	
53	101.5	108	101.5	109	
57	104.2	110	104.2		

355 –

2 – B4 with Nosepiece die for preserving veins – Edge Crimping

101	102.5	109.2	101.	106.7

356 E

Single B4 4E plate
Crimped with OCC #1
Edge Crimp die put up
with 7a Nickel

1	27.93
2	22.80
3	21.25
4	21.26
5	21.26
6	21.86
7	21.19

Co

9.

29	1425	1450	1550	1550	750 rate
30	1575	1587	1687	1700	"
31	1687	1687	1612	1725	"
32	2200	2225	2225	2215	normal
33	1945	1945	1965	1955	
34	1920	1700	1725	1730	
36	1162	1125	1250	1275	Dosing Hydrate
37 38	1400	1312 1387	1487 1475	1475	
39	1920	1925	1925	1920	normal
40	1875	1865	1875	1865	
41	1735	1735	1840	1845	
42	1730	1790	1795	1790	Hydrate.
43	1785	1785	1795	1795	"
45	1375	1400	1525	1527	

Cut out

1890 1500

357E

~~1537 1125~~
~~1462 1387~~

Pocket. .105.

Grid from 015 stock pressed at 5 ~~[illegible]~~ Trim with CCC X 2 die into bed of which thin strips were fitted Mix # 2953 — Crimped without # 2 die

	V	½			
11	1685	1845	1665	1857	
14	1550	1550	1625	1637	
15	2190	2190	2195	2100	
16	1985	1985	1995	1975	
17	1820	1880	1875	1890	
18	1775	1760	1775	1760	
19	1690	1680	1685	1685	
20	1187	1125	1237	1212	750 rate
21	1475	1300	1537	150	" "
22	1562	1412	1600	1587	" "
23	1985	1890	1900	1890	normal
24	1885	1890	1880	1880	"
25	1600	1550	1550	1590	"
26	1840	1835	1865	1865	
27	1890	1880	1895	1890	

	V	1/2	V	1/2	
17	193	199	191	196.5	
19	191	198.5	190	198	High discharge
20	96.7	190	96.7	190	
21	126.7	201.5	126.7	202.5	High discharg 100 amp
22	128.2	201.5	120	200	"
23	120	205	120	200	"
24	116.7	201.7	116.7	200	"
25	123.3	203.3	118.3	201.7	"
26	116.7	201.7	108.3	201	"
27	123.3	205.5	120	201	"
28	111.7	202.5	111.7	202.5	
29	111.7	205	106.7	204.2	
30	109.2	203.3	108.3	204.2	
31					
32					
33	108.3	204.2	110.7	204.2	
34	101.7	197.5	96.7	197.5	High rate
80	80	.9 Volt 183.3	63.3	.9 Volt 178.3	208 1/2 "
66	65	19 175	57.5	170.	212 1/2 V 212.5 High rate
114	60.7	131.7	54.2	19 115	2.02 "

Set aside

358F Ls fz from Clover

Lake cell 20% Tin oxide

mixed with it 60% Hg

Miller # 2109 Expt –

2 Cells Alf made up

with #4 cell Crimping

dia Leg & green pocket

	V	1/2	V	1/2	
1	195	197	196	199	Note small dif between Volt + 1/2
2	197.2	204	200	204.2	
3	181.5	184.5	186	188	
4	177.5	179.5	179	182.7	
5	187.5	190	187	189.7	V to x 2½
6	187.2	188	185	187.2	
7	182.7	188	182.5	185.2	
8	148	148.5	158	160.7	at 130° fahr
9	158.7	160.5	161.5	164.5	"
11	193	197	192.2	196	Normal
12	191.5	198	191	197.5	
13	182.7	187.7	182	186.5	
14	188.7	195	182	187.5	
15	187.5	193.5	187	192.7	
16	188.2	196.7	187.5	195	

	V	½	V	½	
25	200	220	198	210.5	
27	190	207	188	205.5	
28	193.5	207	190	206	
29	193	211	190.5	206	
30	195	202.5	190	200.5	
31	200	213.7	198.7	211.7	Chg'd 30 hours
32	201.2	214.5	197.7	211.2	15 "
33	199.7	214.2	197	208	12 "
34	195.5	209.5	194	206	"
35	196	210	195	206.2	"
36	190	203.5	188	201.5	7 hours
37	199.5	212.7	198.2	207.7	"
38	201.2	214.7	199	210.5	"
39	196.5	210	193.2	205.2	"
40	166	174.5	165.2	173	-130 falls
41	161.7	165.7	159.5	163.7	"
54	75	19 v. dr 130.8 ½	75	19 v. dr 130.8 ½	208½ High rate
65	200	217.5	195	213.5	Normal
100	192.5	210	190	207	

7z

359E

Negative plates, Regular pressed A4 cells + Corrugated for Comparison with 360 & 361 8 grams

	V	½	V	½	
1	212.5	221	212	220	
2	178	189	178	189	
3	167	183	167	183	
4	165	192	166	193	
5	167	186	167	183	
6	153	—	153	—	
7	156	—	156	—	
8	158	—	158	—	
9	160	186	157	184	
10	185	207			long charge
11	180	207	180	205	
12	180	205	180	203	
13	180	202.2	180	198	V 4½ — 20@14
14	200	216.2	198	213	
15	183	203	190	205	
16	193	208.5	193.5	208.2	
17	200	215	197.7	213	
19	200	208	198.7	207.5	
20	196.2	207.5	195	204.5	
21	200	213.2	195	205.5	
22	200	213.5	198.2	210	
23	201.5	215	201.5	212.2	
24	202.5	216.2	201.5	212	

	V	½	V	½	
25	195	210.5	197.7	215	
27	190	201.2	188.5	205	
28	190	202.5	192.5	206	
29	189	202	192	206.5	
30	190	201	192.5	205	30 hour
31	196.7	208	198.7	211	15 "
32	197.2	207	200	211.5	12 "
33	196	206.7	197.5	210	" "
34	193.7	203.7	195	206	" "
35	193	203	195	206	7 hour
36	186.2	197.5	187.5	201.7	" "
37	196.5	205	198.2	209.2	" "
38	198.5	208.5	199.5	211.2	
39	193	203.5	195	207.2	
40	165	171.2	166.7	172	130 false
41	156.2	162	156.7	162.5	"
54	78.3	.9 volt 131.7	83.2	.9 volt 132.5	210½ High rate
65	195	½ 212	195	214½	Normal
100	188.7	203.7	191.2	201.5	

360 F Neg plates A 4 proceed in
die like #4 off 8 gram pocket.

	V	½	V	½	
1	212	220	217	224	
2	178	188	178	190	
3	168	181	168	184	
4	167	190	167	193	
5	167	181	167	184	
6	153	—	153	—	
7	154	—	154	—	
8	157	—	157	—	
9	158	183	160	185	
10	180	205	185	209	Long chg
11	180	205	181	209	
12	178.5	201	180	204	
13	175	198	178.5	201	V=½ 23
14	195	212.2	200	215.5	
15	190	207	193	211	
16	193	205	193.7	209	
17	196	211.5	200	213.7	
18	195	204.7	198.7	207.7	
19	190	204	195	205.7	
20	195	207.5	200	211.2	
21	195.7	205	200	211.5	
22	193.7	201.5	197.2	212.2	
23	200	206.5	200.7	215	

Use 115 alnico on single pockets

area of Ram 5.95 square inches

10 000 lbs approx

25	200	215.5	203.5	219	30 hours
27	195	207	195	209.5	15 "
28	192.5	206.5	194.7	211.5	12 "
29	195	208	196.5	214	"
30	194.5	207.5	199	209.5	"
31	202.7	216.2	205.2	219.2	7 hours
32	201.2	214.5	203.2	219.5	"
33	200	214.7	201	213.2	"
34	197.7	208.5	198.5	209.7	"
35	196	207	196.5	210	
36	190	207	191.5	204.5	
37	199.2	212.2	200	214.7	
38	200.5	212.7	203	217	
39	195	208.2	196.7	210.7	
40	158.2	163.5	158	164	13a Fahr
41	161.7	165.7	159.5	163.7	"
54	76.7	137.5	75	135	214½ Highrate
65	195	215	200	218	normal
100	190	208.2	191	209.2	

361E A 4 kg plate pressed in the lake Oct 4 7 gram pockets

	V	1/2	V	1/2	
1	202	213	205	218	
2	192	199	192	202	
3	177	186	177	186	
4	177	187	178	187	
5	173	177	173	177	
6	165	—	164	—	
7	—	—	—	—	
8	165	—	165	—	
9	173	184	173	185	
10	185	197	183	198	long clay
11	185	201	187	206	
12	188.5	201	190	203.5	Va 1/2 13 @ 15
13	188	201.5	189	204	
14	190	200	190	202.2	
15	195	205	195	211.2	
16	193	204.5	194.2	206.2	
17	192	203.2	192.7	206	
18	197	208.5	198.5	212.2	
19	192.5	203.7	194	206	
20	182.7	192.2	183.5	193.7	
22	205.5	216.5	207.7	218	
23	199.5	211	200.7	213.2	
24	195	206.5	195.7	209.2	

Ram 12" Dia - 120 Tons on gauge
in making A4 7/8 plate.

The crump part on edge of 24
pockets is 10.5 inches -
11.4 Tons per square inch

On A4 will put 160 Tons
on B4 80 Tons -

Ott 333-4-5 only had equivalent
of 120 Tons

362F

2 Reg with 7½ 7 grain pocket made with #4 ATC die smooth pieces afterwards to see new 1st 5 Flame heat at 130 Fahr & then normal

1	2467	2720	130 Fahr
	1513	1500	at 35° deg Fahr
2	2613	2753	130 Fahr
3	113	120	35° Fahr
3	2380	2693	
4	2460	2800	
5	2487	2920	130 Fahr
6	2040	2100	normal
7	2000	1993	
8	2013	2087	
10	1375 1437	1500 1471	Decarburized hydrocarbonate
11	2380	2387	normal
12	2347	2367	"
13	2427	2533	"
14	2400	2453	"
15	2320	2353	"
16	1812	1937	Decarbonate
17	1862	1937	"
18	1750	1962	"
19			

Hot 130 Fahr

2 Checks

130

363 E

Same as 362 E

But 1st 5 Runs are to be run Cold 35° Fahr & then normal

	V	V	
3	913	1447	35° dry
4	907	1113	"
5	933	1467	"
6	2267	2533	Normal
7	2000	2267	
8	1860	2133	
10	1162	1417	Decidly high vacc
11	1225	1475	" "
12	2073	2300	Normal
13	2093	2253	"
14	1993	2233	"
15	2087	2187	"
16	1980	2107	"
17	1325	1687	High vacc
18	1362	1653	
19	1362	1662	

364 – Dup of 362

Bat formed normal 3 Run
& whole face of pocket
Cut away & Clean
Run normal & also
Hat,

Where is now

Of the 3 ways of forming 362-363 & 365 the last 365 seems to be the best high duochy rate

Something in this way of forming cells ? ?

Try A4 — New #4 die

Aint 365 got faces of pocket cut away

93	2227	2387

365 E same as 362 E

But 1st 5 Runs to be at 600 rate & then run normal

	V	.8	V	.8	
1	1760	2213	1600	2013	Normal
2	1573	2053	1573	2026	800 Rate
3	1534	2040	1560	2026	"
4	1600	2119	1600	2119	"
5	1600	2066	1600	2066	" normal
6	2160	2133			normal
7	2093		2007		"
8	2113		1987		"
10	1462		1550		Duochy high rate
11	1450		1625		"
12	2400		2367		normal
13	2267		2247		"
14	2433		2367		"
15	2393		2373		"
16	2353		2267		"
17	1812		1812	High rate	
18	1862		1862	"	
19	1825		1837	"	
20					
21	2453		2287		
22					
23					
24	2507		2373	normal	
40	2487		2287		
51	1975		1962	High rate	

	a		B Cells		C		
	3		2		3		
1	225	231	225.5	233.5	225	232	Normal
2	175	178.5	175.5	177.5	154	157	
3	165	184	165	172	136.7	138.5	
4	158	182.5	164	179	143.5	156	130 Fahr Cyl
5	171.5	196.5	172	191	178	201.5	normal
6	172.5	195.5	170	192	167.5	198	
7	186.7	210	183.7	206.7	178.5	211.2	
8	180	196.7	180	196	173.7	200.5	
9	181	199	185	200.7	178.5	206.5	
11	184	200	185	200	180	205	
12	193.5	209.5	194.2	210.5	189	212.5	
13	195	208	195	209	190	216	
14	192	209	192	209	185	215	
15	192	205	192	205	185	210	
16	190	205	193	205.5	187	212	
17				208.6			
1	225	231	22.5	234	226.5	235	Normal
2	156	159	70	113	70	114	
3	130	135.5	73.5	136			
4	125.5	127.5	31	78	30	84.2	30° Fahr
5	180	200.5	172.2	197.5	175	199.7	Normal
6	170	196.5	167.5	185	167.5	186.5	"
7	180	208.5	181.5	197.2	180	199.5	"
9	177.5	200	178	195.2	178.5	191.5	"
11	179	203.7	183.5	195.5	183.5	197.7	"
12	180	202	184	195	185	197.5	"
13	190	213.7	196	206.2	192.7	207.7	"
14	191	212	188	204	188	205	"
15	188	211	191	204	187	205	"
16	183	208	191	201	192	202	
17	181	207	190	196	191	198	

366F

6 A4 Cells 7 gram packed - pressure 160 Tons - Used Crimping die Cell #4 - afterwards pressure with flat die 120 tons - Cells decreased to distribute filling

	V	1/2	V	1/2	
	225	231	225.5	233.5	Normal
2	175	178.5	175.5	177.5	normal
	154	157	156	159	at 130° Fahr
	70	113	70	114	at 35° "

1st 2 Run normal on 2nd Run
2nd 2 Two run 130 Fahr
3rd Two at 35° Fahr

A

367

A B

3 ~~88.7 97.7 88.7 98.7 Normal~~

367-1

6 B4 Cells 5.3 gm Packets — Pressure 80 Ton O.C.C #14 die Preformed Cat die 60 Tons Cells loaded to dehydrate Lithia —

See further on

368 E

Short tubes 2 cells soaked
24 hours in Cons Li OH,
then put in 21K 2Li 4 put right
only Run Reg

These crows could in these cells
needs need die off # of 7 grams

1	1010	1033
2	1193	1207
3	1200	1210
4	1223	1233
5	1267	1273
6	1267	1273
7	1290	1300
8	1340	1343
10	1343	1347
11	1353	1357
12	1373	1380
13	1390	1390
14	1400	1400
15	1400	1400
16	1390	1390
27	1480	1500
100 K	1267	1263
125	1267	1233

Nothing in it.

Hot Cap 660-697

100 # at run Hot 643 587

369E

2 A4 Reg cell ~~no platinum of Wire plus~~
~~tubes rings, [illegible] parts of cells~~
Except ~~[illegible]~~ No Mercury in the Iron

370 E

2 Cells no marked coloring on any part of cathode Elements

	12 hour V	12 hour ½	12 hour V	12 hour ½	7 hour V	7 hour V
9	172	177	170	175	159	158
24	176	182	175	184	156	151
39	181	191	178	186	159	156
67	156	180	170	180	135	150
120	175	185	170	180	153	144
245	148	166				
2						

Don't appear to be good

	V	.9V	V	.9V	V	.9V
40	92.5	95.8	83	87.5	89.5	92.5
40	90.7	94	81.2	84	88.7	92
51	90	93.2	80	82.5	86.2	900
92	88	89.7	80	82.5	83.5	86

341 - Set aside

B4 Burnmith Cells Health (...)

	V	1/2	V	1/2	V	1/2	
1	84	86.7	84	87	83	86.1	
2	85	87.2	81.2	93.8	80	92.7	
3	85	93	81.2	89	78.7	87.5	
5	88.2	94	84.5	90.5	81.6	89.2	
6	90	97.5	84.2	90.8	82.5	91.2	
7	90	98.8	90	99.5	86.5	91.7	130 [illegible]
8	82.5	92.5	88.5	94.5	75.5	88.	
9	79	87.5	80	88	72.5	81	
10	80.3	81.5	65	74.7	72.5	80.3	130 [illegible]
11	81.5	91.5	72.5	84	76.2	83.2	"
13	75.8	81	64	68	69.3	77.8	Normal
14	80.3	87.5	72.5	77.7	74.3	88	
15	85	.9 92.1	77.7	9.V. 82.5	80	9/10 V 87.5	
16	85.2	88.7	75	80.7	82.5	86.7	note .9V
17	89	95.2	82.5	89	88.1	90	
18	85	89	75	82	79.5	85.5	
19	85.5	91.7	71.2	79	78.5	89	
20	84.7	89.2	75.0	81.7	81.7	87	
21	83.7	88.7	73.7	79.8	80	86.2	
22	84.5	89	76.2	80	81.2	86.4	
23	87.8	93	77.5	83.7	85	89.6	
24	85	90	76.5	82.5	82.5	87.5	
25	86.2	90.7	80	84.2	84.2	89	

333 X Sing B iron plate

333 X pressed in die Lake #Ott 4
334 X 1st with Corrug die, then #4 Ott
335 X " Ott 4 then with flat die
336 X " Ott 4 — then with seq Corrugated.

333 X

High rate decay

3	24.14	24.37	12	20	36.25	20	37.2	
4	24.06	26.17	14	25.50	40.43	25.45	46.5	
5	24.38	26.63	15	32.50	33.00			Normal
6	23.63	25.61	16	30.86	33.20	Normal		
7	24.37	26.80	17	31.25	33.55	Normal		
8	25.61	28.22	18	30.62	33.30		"	
9	25.01	26.97	19	30.00	32.61			
10	25.0	25.13	20	28.24	30.2			
11	25.61	26.65	21	29.69	31.69			
12	[illegible]	[illegible]	45	30.64	31.21			
			80	29.63	30.72			

334 X

High rate decay

3	23.01	22.58	12	15.38	27.38	17.51	30.80	High
4	22.01	22.20	14	18.75	31.75	24.44	35.00	Normal
5	22.50	22.61	15	27.50	30.23			
6	21.26	22.50	16	26.25	28.76	Normal		
7	21.25	22.50	17	26.87	29.40	Normal		
8	21.26	23.57	18	23.12	28.75	"		
9	19.05	23.74	19	21.66	28.21			
10	16.95	23.50	20	22.58	25.19			
11	21.26	23.14	21	24.80	27.19			
12			45	25.57	28.47			
			80	26.57	27.81			
			86	29	32			

Find out what these are

Evidently no improvement over Reg old Lead Commutating

335X

High rate discharg

3	23.67	22.95	12	22.5	37.06	22.5	37.75
4	25.82	25.45	14	26.74	40.67	26.25	41.00
5	26.57	25.93	15	33.00	32.50		
6	25.75	25.01	16	32.45	32.51	normal	
7	26.70	25.62	17	33.35	32.27	"	
8	27.70	27.02	18	33.35	31.90	"	
9	26.63	26.63	19	31.69	31.17		
10	27.64	27.11	20	29.89	29.36		
11	27.00	27.00	21	31.08	30.57		
12	~~22.5~~	~~27.06~~	45	30.64	31.07		
			80	30.26	30.46		
			86	32.69	32.57		

336X

High rate discharg

			V	1/2	V	1/2	No 12
3	22.95	20.44	20	36.25	20	37.5	14
4	25.47	22.20	25.37	38.06	25.01	37.50	normal
5	25.93	23.44	15 31.87	31.22			
6	25.01	22.50	16 30.81	30.00	normal		
7	25.62	22.80	17 31.25	30.42	"		
8	27.02	24.38	18 30.62	29.95	"		
9	25.61	24.38	19 30.00	29.71	"		
10	24.77	23.87	20 28.19	28.01			
11	26.57	24.45	21 29.69	29.36			
12			45 30.77	30.00			
			86 32.17	31.61			

From 372 to 377 - green put in the various Cone Sol - all unhydrous balls, soaked 2 days then dried after pouring all liquid off - then dried at about 30 mesh - The idea is to prevent crushing too much of the green & yielding lower loading weighed more carefully -

372 E Reg green soaked Cone KCl left in - to back up at low loading lot - tubes before assembling soaked in water for 48 hours - then taken out & [illegible]

21 K 2 Li

						Loading lot	
1	667	640	10	1083	1097	7.566	7674
2	833	807	11	1100	1120		
3	893	900	12	1100	1117		
5	987	960	14	1123	1167		
6	1003	973	15	1130	1167		
7	1007	953	17	1157	1167		
8	1020	1027	33	1216	1250		
9	1063	1070	40	[illegible]	[illegible]		
			44	1210	1240		

373 E Reg green soaked KCl/NaCl

						Loading lot	
1	827	757	15	1297	1210	7654	7677
2	1007	907	17	1320	1233		
3	1073	967	33	1350	1280		
5	1150	1047	40	1350	1307		
6	1157	1073	44	1325	1273		
7	1173	1083					
8	1190	1107					
9	1220	1137					
10	1247	1160					
11	1260	1177					
12	1260	1173					
13	1307	1277					
14	1290	1203					

374 E Reg Green soaked K Nitrate

K Weight 7.855 7.850

1	783	550	13	1217	1067
2	950	719	14	1260	1057
3	1007	810	15	1273	1067
5	1100	980	17	1283	1090
6	1117	913	33	1333	1190
7	1127	933	40	1307	1157
8	1147	953	44	1313	1210
9	1180	960			
10	1210	1013			
11	1223	1030			
12	1227	1030			

175 E Reg Green soaked K Sulphate

K+Wt 7.716. 7.726

1	553	560	15	1200	1063
2	807	720	17	1230	1090
3	927	807	33	1287	1160
5	1040	890	40	1273	1287
6	1063	907	44	1290	1177
7	1080	973			
8	1103	947			
9	1133	963			
10	1167	1017			
11	1167	1017			
12	1153	1028			
13	1210	1057			
14	1193	1050			

Evidently the Greenwaffer Mfg of marked with the normal substances 372 to 377 – neither improve or go bad, in fact do nothing

376 E Reg Ni green dotted K Brownish

						L wt
1	690	697	13	1230	1267	7.775
2	873	890	14	1213	1247	7.790
3	943	967	15	1217	1250	
5	1037	1073	17	1253	1280	
6	1053	1090	33	1300	1323	
7	1067	1100	40	1277	1297	
8	1093	1130	44	1280	1290	
9	1127	1160				
10	1153	1193				
11	1180	1210				
12	1157	1217				

377 E Reg Ne green marked K Cuckoo

						L wt
1	873	890	15	1293	1310	7.873
2	950	960	17	1327	1350	7.862
3	980	987	33	1307	1290	
5	1017	1023	44	1257	1267	
6	1033	1043				
7	1047	1053				
8	1087	1100				
9	1127	1140				
10	1140	1183				
11	1207	1217				
12	1233	1247				
13	1293	1313				
14	1277	1293				

378

14			
15			
16	2107	1957	
17			
18	2180	2100	
19	2167	2100	
35	1980	2193	
46	1250	1562	Hyperacute
88	2067	2047	Normal
96	1767	1713	

379

14			
15			
16	2247	2127	
17			
18	2500	2297	
19	2473	2300	
35	2487	2367	
46	1962	1775	Hyperacute
88	2393	2360	Normal
96	2107	2093	

378E 7 grain pellet 2 at 300 action. Checkerdien

1	2353	2353	
2	1700	1650	
4	925	912	Hyperacute
5	1050	1037	" " "
6	1022	1100	
7	1867	1833	Normal
8	1840	1800	
10	1920	1833	
11	1873	1833	
12	1325	1187	Hyperacute
13	1350	1225	

379E 7 grain pellet 2 at 300 action

1	2427	2380	
2	1867	1833	
4	1000	1000	Hyperacute
5	1087	1250	" "
6	1112	1100	
7	2000	1940	Normal
8	1987	1900	"
10	2113	2000	"
11	2120	1993	
12	1525	1437	Hyperacute
13	1625	1477	

14			
15			
16	2340	2253	
17			
18	2520	2400	normal
19	2480	2350	
35	2500	2233	
46	1675	1712	Higher rate
88	2400	2347	normal
96	2187	2000	

Lighted pressure
test
Capacity
high dextrograde

2 5 gm
10
7

380 E 7 grain PKC 2 oct
125 cc liver

1	2520	2433	
2	1967	1947	
4	1250	1162	High dextrograde
5	1312	1175	" "
6	1350	1250	
7	2240	2200	normal
8	2200	2087	"
10	2253	2193	"
11	2213	2167	
12	1687	1525	higher rate
13	1750	1625	

2 2 gm
17

381 E 2 A4 - 7e [illegible] 6 [illegible] ground off same as [illegible] to be run seq [illegible] at 750 rate per 7e packet -

101	159	217	153	210	750 Mapu packet
107	160	212	153	207	

382 E

Reg [illegible] to check 381 E

101	155	208	154.5	205
107	159	207	145	201

B45 5.3 grm 72 ott 4 80 Tons

367 CD

AB formed normal Temp
CD " 130 deg
DEF 35° deg

	C V	C ½	V	½	
1	63.5	64.5	64.2	65	at 130° Fahr
2	62.5	64.2	61.5	62.7	"
3	59	59.5	61.5	62.1	"
4	61	62	63	64.2	"
5	89.2	94.5	86.7	97	
7	89.2	98.5	87	101.2	
9	93	105	96	103.5	
11	95	107	98	110	
12	95	107	97	110	
13	95	107	97	110	
14	96.5	108.2	99.6	111	
15					
16	97.5	109.5	100.5	114.2	
17	100	111	102.5	116	
18	100	112	102.7	115.2	
31	102.5	113.6	106.5	118.6	
40	107.2	118.7	109.7	122.2	
77	107	117	108.5	121.	
84	105	115	107	120	

formed but effected heat

367 AB

	A V	A ½	B	B ½	
1	111	115.5	107.5	114.2	Normal Temp
2	100	102.5	100.7	106.2	"
3	88.7	97.7	88.7	98.7	"
4	95.2	109	95.2	112	
5	86.7	101.2	86.7	102.5	normal
7	91	101.7	91.7	104.7	
9	96	105.7	97	108.7	
11	98	107	100	107	
12	97	107	100	110	
13	97	106	100	109	
14	99.2	107.5	101.7	110.2	
15					
16	100	108.5	101.5	111	
17	101.6	110	102.5	110.5	
18	102.5	110.5	102.7	111.5	
31	101.8	109.7	101.8	112	
40	106.2	117.2	107.2	117.7	
77	108.2	117.5	108.2	118	
84	105	114	107	115	

367 EF

	E		F		
1	47	59.2	45	58.7	35° 7 days
2	47.5	63.5	47.5	63.2	"
3	43.2	63.4	40	59.5	"
4	42	64.5	37.5	60.7	"
5	91.2	98.7	90	97.5	normal
7	88	91	87.7	91	"
9	91.5	96	92.5	96.7	"
11	94	98	95	99	"
12	95	102	95	100	"
13	97	99	95	99	"
14	97.5	102.2	97.5	104.3	"
15					
16	98	103	98.2	103.2	
17	99	104.3	100	104.2	
18	100	105.8	100.2	105.	
31	99.6	106.8	98.5	104.6	
40	102.5	108.7	102.5	109	
77	103.7	113.2	104.3	114.2	
84	102	111	104	114	

381-E A + B —

2 Reg Checkcells

2 Special Cells burns spaced of Lucowpockets -

335

53	3067	2200	Normal
55	2087	1187	
56	2170	1212	
57	2162	1300	High discharge rate
58	3133	2367	Normal -
59	2947	2307	"
60	2993	2347	"
61	2933	2373	
62	2867	2287	
63	2125	1287	High rate
64	2250	1412	"
65	2150	1412	
66	3053	2280	Normal
67	2913	2233	
82	2960	2987	Normal
88	2212	2200	High rate
91	2653	2700	
12—			

30%
24

333

110	2613	2567	
114	2062	2062	

334

110	2660	2533	Normal
114	2000	1862	

26%
20 20

336—

53	2967	3020	Normal
54	2037	2162	High rate
56	1937	2225	"
57	1925	2187	"
58	2900	3133	Normal
59	2600	2947	"
60	2487	3013	"
61	2267	2933	"
62	2267	2867	"
63	1487	2225	High rate
64	1537	2312	"
65	1375	2337	"
66	2287	3073	Normal
67	2013	2907	
82	2307	2913	Normal —
87	2300	2137	High rate
91	2800	2773	Normal

29%
23 2

366-

	A	A	B	B	C	C	D	D	
	182.5	197.7	183	198	181.5	204.2	181	201.5	
.20	197	211.7	196.7	212.2	194	220	194.7	216.7	
.21									
.22	46.7	175.8	45.8	175.8	45	166.7	45	161.7	100 amp
.37	210	225.7	211.2	227.5	209.7	233	208.2	228	
47	197.5	211.5	195	213.5	197.5	218	197.5	213	
90	194	205	194	209	192	211	193	209	

	E	E		
	181.7	194	182	195
.20	195.5	207.5	195.7	210
.21				
.22	45.8	175	45.8	176.7
37	210	222.2	211.2	225
	197.5	210	197.5	212.5
	193	205	193	207

Excitement may not be reliable

Normal

[ITEMS(S) FOUND IN BOOK]

August 13, 1914.

WNA-16-4349

Messrs. Edison-Bachman-McClain-H.H.Smith and file-

Request Mr. Edison S.O. #4867-E
Make up 2 A-4 cells.

#704 Mach. Special Iron Mix Exp. #2109

Dumps 15-25) A pocket
Weight 7.768)

Remarks- Gritty greyish iron, very bulky pockets and iron both became slightly warm.

#824 Ni.(OH)2 = .02853 per dump
Lot 266 Ni.Flake =.00371 " "
Dumps per tube =313
Weight " " =10.683

Serial numbers from H. H. Smith.
S.P. #60 and S.P. #61
Sent to Research Dept. August 13, 1914.

W. N. ARCHER.

[ITEMS(S) FOUND IN BOOK]

August 13, 1914.

WNA-16-4348

Messrs. Edison-McClain-H.H.Smith-& file:-

Request Mr. Edison S.O. #4813-E.
Make 4 A-4 cells.

2 cells regular factory stock
2 cells special and use pocket stock which has been ground
#729 Mach. #2989 Iron mix

Dumps 12-16)
Weight 8.265) A pockets

Remarks loading O.K.

#824 Ni.(O.H.)2 = .02853 per dump
Lot 266 Ni. flake = .00371 " "
Dumps per tube = 313
Weight " " = 10.583

2 regular cells factory serial (#8382B & #8383B.
2 special cells ground pocket stock serial numbers from
Mr. H.H. Smith. S.P. #56 and S.P. #57
Sent both sets to research August 12, 1914.

W. N. ARCHER.

[ITEMS(S) FOUND IN BOOK]

11-12-14

The Expts.

		1 Volt	½ Volt
366 A	Run 42	198.5	212.7
" B	"	198.7	213
" C	"	199.2	219
" D	"	198.2	214
" E	"	198	210
" F	"	199	212

		1 Volt	½ Volt
367 A	Run 36	103	109
" B	"	104.2	113
" C	"	104.6	114
" D	"	105	119.7
" E	"	100	105.7
" F	"	99	105.2

		at normal rate
378	Run 41	2000-2193
379	"	2447-2373
380	"	2513-2267

[ITEMS(S) FOUND IN BOOK]

11-12-14

The Experiment

Exp. 06-1 (The hydrogen — [illegible])

	12-hour change		7-hour change	
	1 Volt	½ Volt	1 Volt	½ Volt	1 Volt	1 Volt
Run 169-170	171	.185	170.5	186	164.2	164.2

[ITEMS(S) FOUND IN BOOK]

11-12-14

Fe Expts

		1 Volt	½ Volt	1 Volt	½ Volt
353	Run 62	205.7	220	205.2	217.5
354	"	207.2	218.5	206.2	219

at high rate

		1 Volt	.9 Volt	.5 Volt	1 Volt	.9 Volt	.5 Volt
358	Run 60	70	165	206.7	60	160	206.7

at high rate

		1 Volt	.9 Volt	.5 Volt	1 Volt	.9 Volt	.5 Volt
359	Run 60	68.3	125	213.2	68.3	120	203.2
360	"	68.3	118.3	200	68.3	125	206.7
361	"	75	133.2	225	68.3	135.8	226.7

at normal rate

365 Run 46 2573-2447

[ITEMS(S) FOUND IN BOOK]

11-12-14

Ni Experiments

Exp. 240 (Cobalt) Run 113

	1 Volt	9/10 Volt	1 Volt	9/10 Volt
Actual	175	190	174.2	188.5
Equivalent	187.5	203.5	186.7	202

Exp. 351 (Bismuth) Run 214

1 Volt	9/10 Volt
200	203.5

Exp. 371 Run 46

1 Volt	9/10 V	1 Volt	9/10 Volt	1 Volt	9/10 Volt
90	95	80	88.7	87.5	91.2

372	Run 39	1207 - 1230
373	"	1320 - 1267
374	"	1343 - 1223
375	"	1317 - 1207
376	"	1327 - 1350
377	"	1340 - 1330

[ITEMS(S) FOUND IN BOOK]

Nov. 12, 1914

Fe Experiments

333X	Run 41	31.61-32.74
334X	"	27.70-29.89
335X	"	31.69-31.73
336X	"	30.83-31.24

		At normal rate
333	Run 109	2533-2413
334	"	2533-2387
		At high rate
335	Run 87	2025-2025
336	"	2212-2037

				At 800 m.a.
349	At #2 Die	Special	Run 80	1254-1760
	" #4 "		"	1774-1360
	" #2 "	Regular	"	1814-1840
	" #4 "		"	1386-1626

[ITEMS(S) FOUND IN BOOK]

11-12-41

Fe Experiments

348E

	Run 71	72	73	74	75	76	77	78
				At 750 M.a.				
Regular	2693	2600	2540	1850	1862	1950	2600	2573
"	2647	2587	2500	1862	1862	1950	2623	2533
"	2640	2520	2387	1850	1762	1775	2613	2527
"	2187	2320	2167	1637	1412	1437	2155	2113
OH = 2Hc	2907	2813	2707	2125	2037	2125	2773	2700
"	2800	2767	2613	2062	1962	2075	2720	2627
OH + H Ge	2920	2820	2673	2062	1975	2087	2773	2647
"	2980	2820	2673	2125	2037	2137	2800	2647

[ITEMS(S) FOUND IN BOOK]

Dec. 3, 1914

The Experiments

333X	Run 55	30.75 - 31.85
334X	"	27.0 - 29.19
335X	"	31.32 - 31.32
336X	"	31.39 - 30.75

		At normal pitch		At normal pitch
333	Run 126	2260-2320	Run 127	2253-2313
334	"	2500-2167	"	2560-2212

		At normal pitch		At normal pitch
344	Run 81	380-1730	Run 82	380-1605

				At 800 r.p.m.
349	Off #2 Dia	Special	Run 96	1080-1560
	" #4 "		"	1706-1066
	" #2 "	Regular	"	1614-1654
	" #4 "		"	1174-1266

[ITEMS(S) FOUND IN BOOK]

Rec. 2/19/11

Oct. [illegible]

		1 Volt	½ Volt	1 Volt	½ Volt
353	Run 76	206.2	220	204.5	218.7
354	"	205.2	218.5	204	217.5

		1 Volt	½ Volt	1 Volt	½ Volt
352	Run 67	104	109	104.5	111.2
355	"	106	111.2	106.7	111.

Oct high [illegible]

		1 Volt	9 Volt	5 Volt	1 Volt	9 Volt	5 Volt
358	Run 78	66.7	163.2	210	50	158.2	211.7

		1 Volt	½ Volt	1 Volt	½ Volt
359	Run 74	197.5	216.5	195.5	212.7
360	"	192.5	208.7	197	213
361	"	195	214.2	197	216

Oct normal [illegible]

365 Run 62 2480-2360

[ITEMS(S) FOUND IN BOOK]

December 3, 1914

Fe Experiments

At 750 m.a. per Fe Pocket

		1 Volt	½ Volt	1 Volt	½ Volt	
381	Run 70	164	217	159.5	213.5	Regular
"	"	160	212.5	159	206	Burn [illegible]

		At 35° Fahr
385	Run 8	747 - 1580
386	"	487 - 553
387	"	1060 - 1647
388	"	1207 - 913
389	"	1487 - 367
390	"	453 - 1587
391	"	0 - 1487
392	"	420 - 1487
393	"	1200 - 180

[ITEMS(S) FOUND IN BOOK]

Dec. 3, 1914

Ni Experiments

Exp. 351 (Bismuth) Run 229

1 Volt	9/10 Volt
203.2	207

Exp. 371 Run 61

1 Volt	9/10 Volt	1 Volt	9/10 Volt	1 Volt	9/10 Volt
92.5	94.2	83.7	85.7	88	91.2

372	Run 56	1213 - 1257
373	"	1333 - 1287
374	"	1287 - 1220
375	"	1287 - 1160
376	"	1270 - 1300
377	"	1267 - 1277

[ITEMS(S) FOUND IN BOOK]

December 4, 1911

		1 Volt	½ Volt
366 A	Run 56	198	211
" B	"	198.5	211.5
" C	"	198.7	217
" D	"	198.5	213.5
" E	"	197.2	208.5
" F	"	198	210.5

		1 Volt	½ Volt
367 A	Run 50	108.7	116.5
" B	"	109	119.2
" C	"	108.7	118
" D	"	112.5	124.5
" E	"	104	111.5
" F	"	104.2	112

		At normal rate
378	Run 57	2067 - 2167
379	"	2400 - 2360
380	"	2467 - 2193